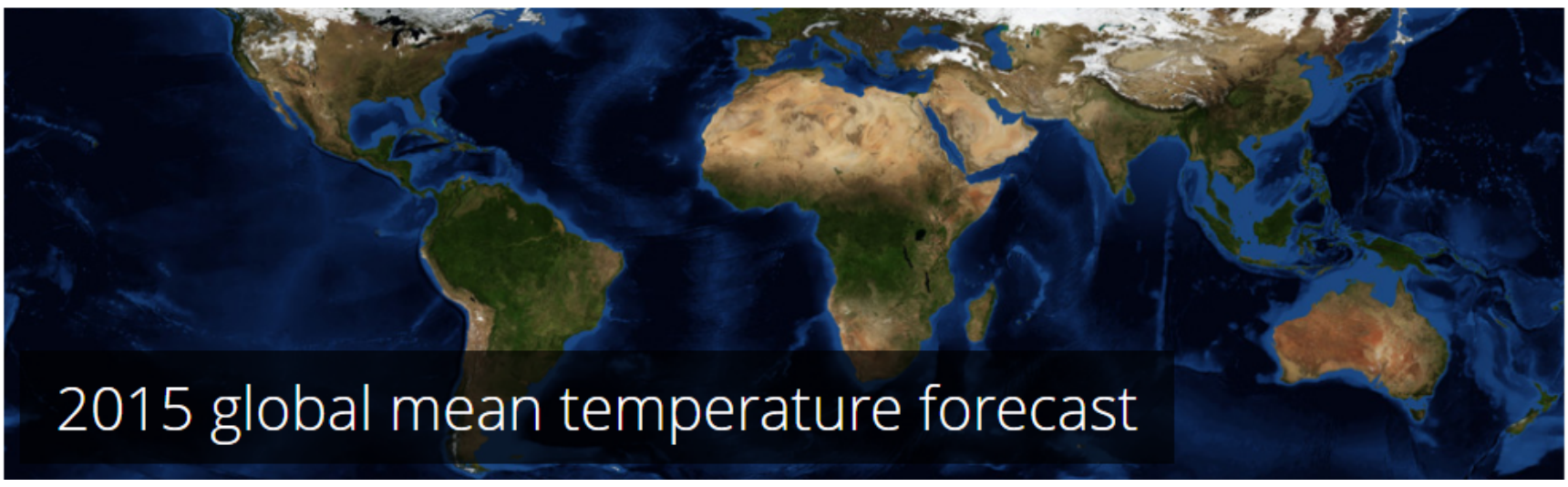

17 December 2014 - The global mean temperature for 2015 is expected to be between 0.52 °C and 0.76 °C* above the long-term (1961-1990) average of 14.0 °C, with a central estimate of 0.64 °C, according to the Met Office annual global temperature forecast.

Using the 1981-2010 long-term average of 14.3 °C, the range is between 0.22 °C and 0.46 °C, with a central estimate of 0.34 °C.

Taking into account the range of uncertainty in the forecast, it is very likely that 2015 will be one of the warmest years in a series dating back to 1880.

The outlook for 2015 is warmer than the Met Office's forecast for 2014, which had a range of 0.43 °C to 0.71 °C with a central estimate of 0.57 °C (using the 1961-1990 long-term average).

The forecast for 2014 agrees with data from Jan-Oct, which shows the mean global temperature for 2014 so far is 0.57 °C** (+/- 0.1 °C). This currently places 2014 as one of the warmest years on record***, although the final number for the year may change.

As the table below indicates, the forecast for 2015 - including the range of uncertainties - will also place the coming year among the warmest on record.

The potential increase in global mean temperature in 2015 is expected to be based on the ongoing warmth of the tropical Pacific Ocean, weak El Nino conditions, the warmth of the Arctic and the ongoing increase in greenhouse gas concentrations.

These factors are similar to those that contributed to 2014 being one of the warmest on record - these have been discussed in the paper '2014: A year of record-breaking temperatures?

* Range is +/- two standard deviations.

** The observationally based estimates of global average temperature are an average of the three main global temperature datasets, which are compiled by the Met Office and Climatic Research Unit at the University of East Anglia (HadCRUT), NOAA National Climatic Data Center (NOAA NCDC) and NASA Goddard Institute for Space Studies (NASA GISS).

*** The table below shows the global average temperature anomalies for the last 20 years (2014 only includes data from Jan to Oct, so may change). All temperatures from observations have an uncertainty range of ± 0.1 °C so it is important not to read too much into the individual rankings for each year. The anomaly is in °C above long-term (1961-1990) average of 14.0 °C in the left column, and the long-term (1981-2010) average of 14.3 °C in the right hand column.

Global average temperature anomalies for the last 20 years

	WMO global average temperature anomaly (+/- 0.1 °C) compared to:	
Year	**1961 - 1990 average**	**1981 - 2010 average**
2014	0.57 (Jan - Oct)	0.27
2013	0.50	0.20
2012	0.47	0.17
2011	0.43	0.13
2010	0.55	0.26
2009	0.49	0.20
2008	0.40	0.10
2007	0.50	0.20
2006	0.49	0.20
2005	0.54	0.25
2004	0.44	0.14
2003	0.50	0.21
2002	0.50	0.20
2001	0.43	0.14
2000	0.30	0.01
1999	0.32	0.02
1998	0.52	0.23
1997	0.38	0.09
1996	0.20	-0.09
1995	0.33	0.03

Last updated: 14 October 2015